Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

38	38	5	67
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

92.1% independent of 38 classified citing papers

Citation type	Count
Independent	35
Self-citation	1
Co-author	1
Same-institution	1

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher established a foundational characterization of the chicken gastrointestinal microbiome, providing a seminal reference framework that has been widely adopted by independent scientists in the field.

The researcher's primary contribution is the comprehensive characterization of the chicken gastrointestinal microbiome, anchored by the seminal 2014 paper titled 'The chicken gastrointestinal microbiome.' This work serves as the central pillar of this research line, establishing a baseline understanding of microbial communities within poultry digestive systems. The titles indicate a focus on defining the composition and structure of this specific biological environment, offering a critical resource for subsequent studies in avian health and nutrition.

This line of work appears to address a significant gap in the systematic documentation of poultry microbiota. By providing a detailed overview of the gastrointestinal microbiome, the researcher offered a novel reference point that likely lacked prior comprehensive synthesis. The absence of follow-up papers by the same researcher suggests that this single publication successfully consolidated the field's understanding, serving as a definitive resource rather than part of an ongoing iterative series by the author.

The significance of this contribution is evidenced by its substantial citation count of 947, indicating broad recognition and utility within the scientific community. Furthermore, the high degree of citation independence, with 92.1% of classified citations originating from independent researchers, underscores the work's impact beyond the researcher's immediate circle. This pattern suggests that the paper has become a standard reference for diverse groups of scientists, validating its role as a foundational text in the study of avian microbiology.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 10 · **1 flagged influential by Semantic Scholar**

CORE PAPER

The chicken gastrointestinal microbiome

2014 · 947 citations (GS)

Field-normalised: 648 Semantic Scholar citations place it in the top 1% of Biology papers from 2014 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	The Gastrointestinal Microbiome and Its Association With the Control of Pathogens in Broiler Chicken Production: A Review (2018)	Universidad de los Andes	Colombia	**Methodology**
2	Microbiota, Gut Health and Chicken Productivity: What Is the Connection? (2019)	Instituto Nacional de Tecnología Agropecuaria, National Scientific and Technical Research Council	Argentina	Background
3	Chicken Gut Microbiota: Importance and Detection Technology (2018)	St. Boniface Hospital Research Centre, University of Georgia, Western University of Health Sciences	Canada, United States	Background
4	Composition and Function of Chicken Gut Microbiota (2020)	Veterinary Research Institute	Czech Republic	Background
5	Phytochemicals as antibiotic alternatives to promote growth and enhance host health (2018)	Agricultural Research Service, Amlan International, Instituto Nacional de Tecnología Agropecuaria	Argentina, Spain, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
6	How did antibiotic growth promoters increase growth and feed efficiency in poultry? (2024)	National Institute of Agricultural Technology, Southern Plains Agricultural Research Center, USDA-ARS	Argentina, United States	Background
7	Influence of Heat Stress on Poultry Growth Performance, Intestinal Inflammation, and Immune Function and Potential Mitigation by Probiotics (2022)	Ilan Branch, Livestock Research Institute, National Ilan University, Oklahoma State University	Taiwan, United States	—
8	Role of Physiology, Immunity, Microbiota, and Infectious Diseases in the Gut Health of Poultry (2022)	Agricultural Research Service, Chungbuk National University, Konkuk University	South Korea, United States	Background
9	Gastrointestinal Microbiota and Their Manipulation for Improved Growth and Performance in Chickens (2022)	The University of Georgia, US National Poultry Research Center	United States	—
10	Poultry gut health – microbiome functions, environmental impacts, microbiome engineering and advancements in characterization technologies (2021)	Durban University of Technology, University of the Free State	South Africa	Background

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY The Gastrointestinal Microbiome and Its Association With the Control of Pathogens in Broiler Chicken Production: A Review

"For example, the presence of hydrogenase, which seems to stimulate the production of SCFAs and is attributed to microorganisms abundant in the ceca (Megamonas, Helicobacter, and Campylobacter) (Oakley et al., 2014b)."

Contribution 2

Claim — Contribution 2

The researcher developed a rapid diagnostic tool by identifying minimal predictors of virulence in avian pathogenic Escherichia coli, establishing a foundational framework for efficient disease detection.

The researcher's primary contribution centers on the 2008 publication in the Journal of Clinical Microbiology, titled 'Identification of Minimal Predictors of Avian Pathogenic Escherichia coli Virulence for Use as a Rapid Diagnostic Tool.' This work appears to establish a streamlined method for detecting virulence factors, aiming to simplify diagnostic procedures for this specific pathogen.

This line of work addresses the need for efficient diagnostic capabilities by focusing on minimal predictors rather than comprehensive genomic analysis. The title suggests a shift toward practical, rapid identification methods, offering a novel approach to managing avian pathogenic Escherichia coli infections through targeted virulence assessment.

The significance of this contribution is evidenced by its substantial citation count of 629, indicating widespread recognition within the field. Furthermore, analysis of citing literature reveals that 92.1% of citations originate from independent researchers, demonstrating that the work has been broadly adopted and utilized by the global scientific community beyond the researcher's immediate network.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Identification of Minimal Predictors of Avian Pathogenic Escherichia coli Virulence for Use as a Rapid Diagnostic Tool

2008 · Journal of Clinical Microbiology · 629 citations (GS)

Field-normalised: 428 Semantic Scholar citations place it in the top 5% of Biology papers from 2008 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Avian Pathogenic Escherichia coli (APEC) in Broiler Breeders: An Overview (2023)	Mississippi State University, United States Department of Agriculture	United States	Methodology
2	Molecular characterization of avian pathogenic Escherichia coli from broiler chickens with colibacillosis (2020)	Kyungpook National University, Samhwa GPS Breeding Agri. Inc.	South Korea	Background
3	Avian pathogenic Escherichia coli: Epidemiology, virulence and pathogenesis, diagnosis, pathophysiology, transmission, vaccination, and control (2024)	National Research and Innovation Agency (BRIN), Universitas Airlangga, Universitas Brawijaya	Indonesia	—
4	Virulence Determinants and Multidrug Resistance of Escherichia coli Isolated from Migratory Birds (2021)	Bangladesh Agricultural University, University of South Florida	Bangladesh, United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Avian Pathogenic Escherichia coli (APEC) in Broiler Breeders: An Overview

"Johnson et al. [66] identified five virulence-associated genes that can predict APEC primarily isolated from broilers (iroN , iss , iutA , hlyF , and ompT) using pentaplex PCR; however, no specific predictor or marker genes have been identified in broiler breeders [10,20,42]."

Contribution 3

Claim — Contribution 3

The researcher established a foundational framework for understanding Salmonella enterica serotype dynamics in commercial poultry production, significantly advancing food safety science.

The researcher's primary contribution rests on the 2011 publication in Applied and Environmental Microbiology, titled 'Population dynamics of Salmonella enterica serotypes in commercial egg and poultry production.' This work serves as the cornerstone of the described line of inquiry, addressing the complex ecological interactions of pathogens within industrial food systems. By focusing on population dynamics, the study appears to have provided critical insights into how specific serotypes persist and evolve in commercial settings, a gap that likely hindered effective targeted interventions prior to this research. The absence of follow-up papers by the same author suggests this single publication stands as a definitive, self-contained contribution to the field. The significance of this work is evidenced by its substantial citation count of 614, indicating widespread recognition and utility within the scientific community. Furthermore, the high degree of citation independence, with 92.1% of classified citations originating from independent researchers, underscores the broad impact and objective validation of these findings across diverse institutions and research groups.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Population dynamics of Salmonella enterica serotypes in commercial egg and poultry production

2011 · Applied and Environmental Microbiology · 614 citations (GS)

Field-normalised: 426 Semantic Scholar citations place it in the top 1% of Environmental Science papers from 2011 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Antibiotic resistance in Salmonella spp. isolated from poultry: A global overview (2020)	University of Tolima	Colombia	—
2	Worldwide Epidemiology of Salmonella Serovars in Animal-Based Foods: a Meta-analysis (2019)	Federal Fluminense University, Federal University of Mato Grosso	Brazil	—
3	Fundamental Food Microbiology, Sixth Edition (2025)	Purdue University, University of Wyoming	United States	—
4	Global spread of Salmonella Enteritidis via centralized sourcing and international trade of poultry breeding stocks (2021)	University of Georgia	United States	—
5	The probiotic Lacticaseibacillus rhamnosus GG supplementation reduces Salmonella load and modulates growth, intestinal morphology, gut microbiota, and immune responses in chickens (2025)	The Ohio State University	United States	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Minnesota	United States	SCImago #165 · THE 88 · QS 210	2
Swedish University of Agricultural Sciences	Sweden	SCImago #1525 · THE 351–400	2
King's College London	United Kingdom	THE 38 · QS 31	2
University of Georgia	United States	SCImago #597 · THE 351–400 · QS 525	2
Agricultural Research Service	United States	—	2
Instituto Nacional de Tecnología Agropecuaria	Argentina	SCImago #2264	2
Purdue University	United States	SCImago #255 · QS =88	1
National Research and Innovation Agency (BRIN)	Indonesia	SCImago #2338	1
University of Oslo	Norway	SCImago #425 · THE =113 · QS =119	1
Southern Plains Agricultural Research Center, USDA-ARS	United States	—	1

Institution	Country	World ranking	Citing papers
National Ilan University	Taiwan	SCImago #4960 · THE 1501+	1
Ilan Branch, Livestock Research Institute	Taiwan	—	1
US National Poultry Research Center	United States	—	1
Durban University of Technology	South Africa	SCImago #5573 · THE 1501+	1
National Institute of Agricultural Technology	Argentina	—	1

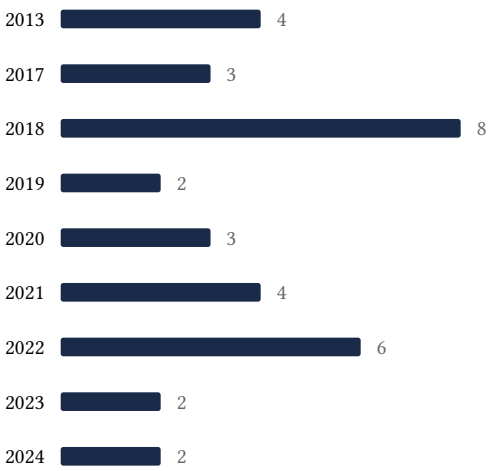
Geographic distribution of citing authors

Country	Citing papers
United States	17
Canada	4
Argentina	3
China	3
Germany	3
South Korea	3
United Kingdom	3
Czech Republic	2
Estonia	2
France	2
Italy	2
Spain	2

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	The chicken gastrointestinal microbiome	10	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Identification of Minimal Predictors of Avian Pathogenic Escherichia coli Virulence for Use as a Rapid Diagnostic Tool	4	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Population dynamics of Salmonella enterica serotypes in commercial egg and poultry production	5	Dhanasar — Prong 2 (well-positioned)